

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/512,082	SAWADA ET AL.	
	Examiner	Art Unit	
	Peter J. Macchiarolo	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to Amendment filed 11/08/2004.
2.  The allowed claim(s) is/are 25-32.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All b)  Some\* c)  None of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date hereto.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 11/08/2004
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

Acknowledgement is made to the preliminary amendment filed on 11/08/2004 which consists of changes to the claims and specification. The above have been entered and considered.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 11/08/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

The drawings filed on 11/08/2004 are acceptable subject to correction of the informalities indicated below. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Figures 8 and 9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Allowable Subject Matter*

Claims 25-32 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art teaches or motivates a metal layer formed on a concavo-convex surface (i.e. the concave face has a greater degree of curvature than the convex face) of a cathode substrate for reducing a fluctuation in cut-off voltage (see for example USPN 4459322 to Lin). However, the prior art fails to motivate or disclose said cathode substrate being protrusively deformed in combination with the remaining limitations of the claims.

Therefore, regarding independent claims 25, and 27, the prior art fails to teach or suggest a method of reducing a fluctuation in a cut-off voltage of a cathode for an electron tube in which a metal layer for protrusively deforming a cathode substrate when heated is formed on a concavo-convex (i.e. the concave face has a greater degree of curvature than the convex face) surface of said cathode substrate, in combination with the remaining limitations of the claims.

Further, regarding independent claims 29 and 31, the prior art fails to teach or suggest a cathode for an electron tube in which a metal layer for protrusively deforming a cathode substrate when heated is formed on a concavo-convex (i.e. the concave face has a greater degree of curvature than the convex face) surface of said cathode substrate, in combination with the remaining limitations of the claims.

The remaining claims are allowable due to their dependency.

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Any comments considered necessary by the Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of reasons for Allowance."

The Examiner notes that the limitation, "heating means," meets the three-prong analysis for invoking 35 U.S.C. 112 6<sup>th</sup> paragraph, and has been read as described in the paragraph spanning pages 12 and 13 of the instant specification, i.e. a heater which indirectly heats the cathode substrate. See MPEP 2181.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. A machine translation of Applicant cited Shinjo is provided herewith for Applicant's convenience.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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